

34. (New) The portable display system of claim 33 wherein the pixel electrodes have a width of less than about 10 microns.

35. (New) The portable display system of claim 14 wherein the array of pixel electrodes have an active area of less than 5 mm².

36. (New) The portable display system of claim 35 wherein the pixel electrodes have a width of less than about 8 microns.

REMARKS

Claims 14, 16, 17 and 25-31 remain pending in the application. All claims stand rejected. In response, certain claims have been amended and new claims have been added (claims 32-36) to more distinctly claim the applicants' invention. Support for the new claims is found at least on specification page 9, lines 4-8. Reconsideration and further examination are requested.

Claim Rejections Under § 112

Claims 14, 16, 17, and 25-31 have been rejected under 35 U.S.C. § 112, first paragraph. In response, claim 31 has been cancelled, and claim 30 has been amended to address this rejection.

As for claim 14, support for the volume of the housing recited in amended claim 14, as well as claim 30, is found at least in the specification at page 45, lines 25 through 26.

The Examiner contends at page 9 of the Office Action that the specification only provides support for a "portable pager/display system," and not all portable display systems. The specification, however, explicitly states that the "portable pager/display system is slightly *larger* than the portable display system." Accordingly, if a portable pager/display system has a volume of less than 300 cm³, then a portable display system must have a volume less than 300 cm³, as required by amended claim 14.

Thus, the § 112 rejection of claims 14 and 30 is therefore believed to be overcome. Because the other claims depend from claim 14, the reasons for overcoming the § 112 rejection apply as well to the dependent claims.

Claim Rejections Under § 103

Claims 14, 25, 26, 30, and 31 stand rejected under 35 U.S.C. § 103(a) based on U.S. 5,867,795 to Novis et al. Claims 16, 17, and 28 stand rejected under 35 U.S.C. § 103(a) based on Novis in view of U.S. 5,579,165 to Michel et al. Claim 27 stands rejected under 35 U.S.C. § 103(a) based on Novis in view of U.S. 5,506,705 to Yamamoto et al. And claim 29 stands rejected under 35 U.S.C. § 103(a) based on Novis et al. in view of U.S. 5,579,165 to Michel et al. and further in view of U.S. 5,206,749 to Zavracky et al.

Novis describes a portable electronic device including a virtual image display positioned within a housing or a remote unit. As shown in FIGs. 5 and 6, Novis's display (40) includes an apparatus (41) that provides an image on a surface (42). A lens (44) is positioned in space relation to the surface (42) and produces a virtual image that is viewable by an eye (46) from an aperture (45) defined by the lens (44). The apparatus (41) includes a light emitting device (LED) array (47) driven by data processing circuits (48). Novis states at column 7, lines 7-12 that other image generating devices instead of LEDs may be utilized, including liquid crystal devices.

Although Novis mentions using liquid crystal devices, Novis does not disclose the number of pixel electrodes in the liquid crystal devices nor the active area of the pixel electrodes. Novis simply offers liquid crystal devices as an alternative to LEDs, without discussing the particular features of the liquid crystal devices or the advantages of these features.

By way of contrast, applicants' liquid crystal display includes "an array of at least 75,000 pixel electrodes . . . having an active area of less than 20 mm²," as stated in amended claim 14. Among other advantages of applicants' invention, by reducing the size of the display, a larger number of displays can be fabricated from a single wafer. Hence, the manufacturing yield can be substantially increased and the cost per display can be substantially reduced. Furthermore, the display is lighter and more compact, and thus more portable.

Accordingly, Novis does not make obvious the invention described in amended claim 14, and therefore the rejection of claim 14 is believed to be overcome. Further, because the other secondary references cited by the Examiner do not overcome the deficiencies of Novis for at least the reasons state above, and because the other claims depend from amended claim 14 the reasons for allowance of claim 14 apply as well to the dependent claims.

Reconsideration of the rejections under 35 U.S.C. § 103(a) is respectfully requested.

Regarding Double Patenting

Claims 14, 16, 17, and 25-31 have been provisionally rejected under the judicially-created doctrine of double patenting based on claims 11, 14, and 15-18 of co-pending Application No. 09/004,706. The applicants wish to place this rejection in abeyance until the claims are finalized. A Terminal Disclaimer will be filed to obviate this rejection once the claims are otherwise allowable.

CONCLUSION

In view of the above amendments and remarks, it is believed that all pending claims (Claims 14, 16, 17, 25-30, and 32-36) be allowed so the application can be passed to issue. If it is believed that a telephone conference might expedite prosecution of this case, the Examiner is invited to telephone the undersigned attorney at (978) 341-0036.

Respectfully submitted,
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MARKED UP VERSION OF AMENDMENTS

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Claim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

14. (Twice Amended) A portable display system comprising:

a housing having a volume of less than 330 cm³;

an active matrix liquid crystal display [carried by] mounted to the housing, the display including an array of at least 75,000 pixel electrodes, the array of pixel electrodes having an active area of less than [158] 20 mm²;

a lens that magnifies an image on the display; and

a card reader operating at least at 15 MHZ within the housing that receives video input to be displayed on the display from a card that docks with the card reader.

30. (Amended) The portable display system of claim 14 wherein the housing of the display unit has a volume of [less than] approximately 250 cm³.